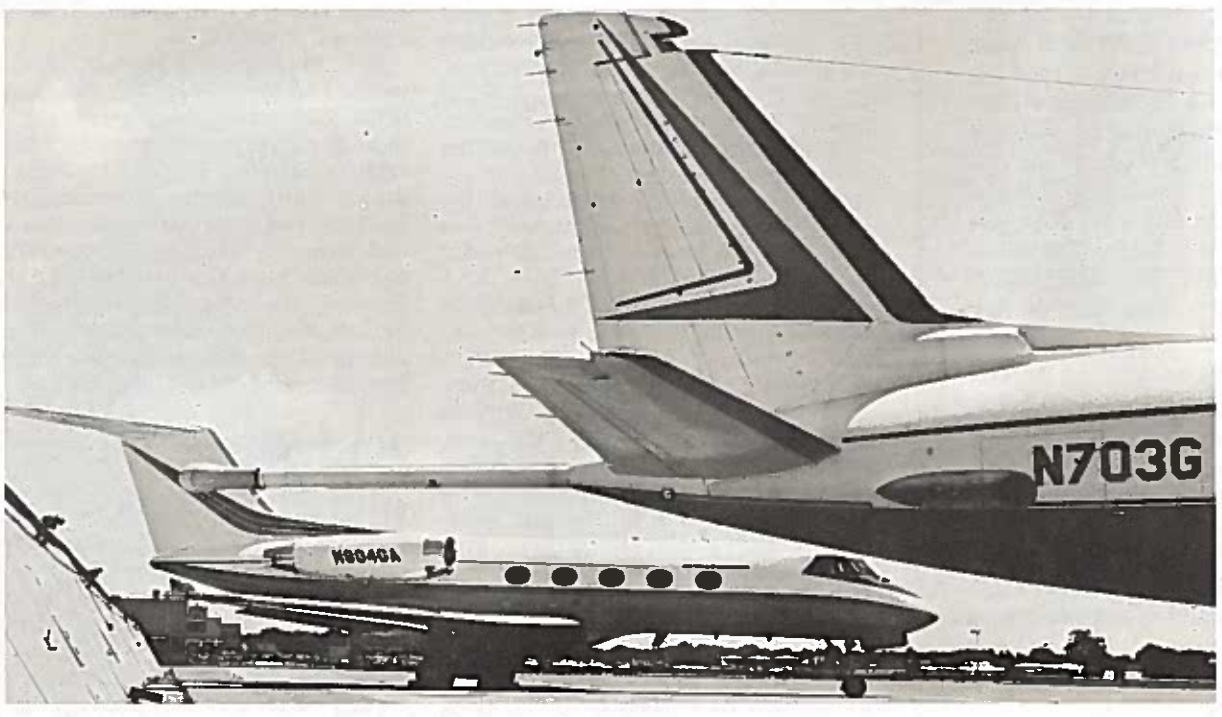
plane
GRUMMAN
news

Looking at the future through people . . .

Observation by Pete Greene drew smiles from Vice President George Skurla, Jim Kobus and Jim Marquardt recently when the three Grumman Scholars met with the director of Product Engineering to review their work experiences. Skurla, after chatting with most of the 35 Grumman Scholars who are working in Long Island plants this summer, noted that the Company needed such youth and enthusiasm. "Youth and experience," he stated, "make up a winning combination." For more on the Grumman Scholars and their impressions of their summer experiences, turn to page 7.



. . . and systems that explore new fields

That 16-foot magnetometer boom you see extending from the tail of a Grumman Gulfstream I is the new look in a Corporate venture into an entirely new commercial field for Grumman. The boom is just one feature of the modified aircraft now equipped to make a variety of ecological studies. The plane is the primary tool to be employed by the recently formed Ecosystems Department headed by Bill Schwendler Jr. At the moment, Operations Manager Tom Attridge and crew are on an extended study flight with the Gulfstream I in Canada. That's the sleek twin-jet Gulfstream II in the background. For further information on Ecosystems, turn to page 7.

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This thing called concern...

It's becoming increasingly apparent these days that people are taking a closer look at what they are buying.

This is particularly true in the aerospace industry. Since the Department of Defense and the National Aeronautics and Space Administration represent all of us as citizens, it's understandable why they must constantly evaluate the quality of the products that we at Grumman make for them. That's the way it should be; that's the way we want it to be, too.

We must deliver a quality product, at a fair price, and on time—all of the time. That's our business.

The message, then, is critical, something we all have to be concerned about. *Only if we continue to meet these requirements can we expect to be successful in our business.* That means that all of us—every single one of us at Grumman and all of our associate contractors, as well—have to be consciously looking to do an outstanding job. And we must always look for better ways to do a job so that we can improve quality and trim the cost to the customer.

It's especially tough because today there seems to be a negative attitude—a sort of confidence gap—that's developing with regard to the aerospace industry. That's been due, in part, to costly "over-runs," where the final product has cost much more than originally estimated. Rarely has it been explained that many such "over-runs" can be traced to factors that are beyond the control of the manufacturer.

For about the past eight years, firms bidding on new Government defense systems, for example, have had to submit fixed-price bids that, in effect, have forced them to predict years in advance, what research and development costs of such a system would be. Sometimes this fixed-price constraint forces a manufacturer to "guesstimate" the R&D costs of a system that may require an entirely new engineering approach, new materials (like boron or tantalum), new fabrication techniques, new propulsion, and so on, without knowing what will happen to wages and the cost of materials in the future. (The Kennedy Memorial in Washington, D.C., for example, certainly a non-defense project, has risen from an original estimate of $31 million to more than $66 million today.)

Misinformation hurts, too

On top of that problem is the confidence gap created by the dissemination of misinformation and unjustified criticism. One New York congressman, for instance, has accused the defense industry of making exorbitant profits. The facts, however, show that we in aerospace have much lower profit margins than are found in retailing and many types of manufacturing. Moreover, "exorbitant" profits could not occur, for two reasons: First, major defense contracts are closely scrutinized by Defense Department price-analysis specialists all along the way. And second, at the end of each year an entirely independent body, The Renegotiation Board, studies company sales and profits *and may legally authorize renegotiation talks* with a company to recover part of that profit.

Perhaps this misconception about profits exists because we haven't kept people informed on how our business really works; in any event, we must improve that understanding in the future.

There's another big legitimate problem: our national priorities. Defense and space exploration are just two of them; many others have claim to our attention. We have to evaluate all of them, all of the time. But when there is a "clear and present danger" to our nation's security, as most of us believe there still is, doesn't that become our top priority? Only by being prepared will that threat to our security remain just a threat and not a disaster.

(Continued on page 4)

The top award. **Dr. Ralph Tripp (L), Vice President and director of the Lunar Module program, and Otto Hecht, supervisor of S/CAT Safety Engineering, beam appropriately on the Company's reception of the National Safety Council's Award of Honor, the top honor in the Council's recognition system. It was well deserved, coming as a result of 8,330,000 man-hours of manufacturing and testing LMs without a single disabling injury.**

Moles, Polo 'on the beam' while reaching top spot on suggestion bond award list

The Electron Beam Welder in Plant 2 presented a new welding problem and got a new answer from Edward N. Moles of the Quality Control Lab, Plant 10, and Clifford J. Polo of Mechanical Inspection, Plant 2. Their solution earned them a $400 award in the most recent Employee Suggestion evaluation.

Electron beam welding must be done in a vacuum and monitored on a television screen. In order to make sure the weld is placed exactly, and to prevent having to do it over in the big chamber, these two developed a system to afford visual inspection for welding F-14 titanium fittings.

Thus, by visual inspection after the E-B welding operation, the inspector can easily check the weld bead and the width and location of the bead.

$300 in bonds went to the team of Raymond Amendola and Manuel Alfonso of Drop Hammer, Plant 2; to John Borner of Tool Fabrication Sub-Assembly - Tools, Plant 2; to William DeModen, Tool Fabrication - Templates, Plant 16; to the twosome of Douglas McDonough of Propulsion Component Test, Plant 2, and Jean Mercier, Vehicle Drafting, Plant 1 (formerly of Propulsion Component Test).

$250: Alfred B. Eckerson, Requirements Planning, Plant 30.

$200: Cid Pietromartire, P/S Configuration Control, Plant 15, and Harry Van Nattan, KSC Manufacturing Shop, Plant 83.

$150: Charles Randazzo, Final Assembly, Plant 36; William Holler, Tool Fabrication - Jigs & Fixtures, Plant 2.

$125: Edwin Asselta, Electronic Flight Development Operations, Plant 1.

$100: Robert Surprise, Honeycomb Core Details, Plant 3.

$75: Donald Carter, Requirements Planning, Plant 30; Vincent Cirrto, Equipment Thermal Design, Plant 15; Frank Trimble, Configuration Data Management, Plant 15.

$50: Franklin Honsberger, Requirements Planning, Plant 30; Henry Mannella, Electronics Test, Plant 14; Dick Neumann, LM Final Assembly, Plant 5; Walter Sonner, Electrical, Plant 77, Stuart; Nick Tallarico, Operations, Plant 5; Jean Wakeham, Management & Control, Plant 58, Sterling, Va.; Dan Walton Jr., KSC Engineering, Plant 83; Herb Holland, Chemical Engineering, Plant 27, and Joe Gallo, Fiberglass, Plant 27; Darrell Kidd and Robert Sadler, KSC Manufacturing Shop, Plant 83.

Jet holiday trip planned by GAA

Woops. The Grumman Athletic Association hoped to arrange a dandy over-Thanksgiving holiday trip to Eleuthera in the Bahamas, but it didn't work out. However, the trip planned for November 24-29, using two work days and costing $230 for the package, is on. That's to Paget in Bermuda. For information, call GAA, Ext. 2133 or 2269.

Company team steps up tempo in bid for Space Shuttle contract

"Is there a better way to go?" is the critical question when discussing the United States' next big space effort.

Grumman says "very possibly," and has committed its best aerospace talent to exploring, for the National Aeronautics and Space Administration, three alternate approaches to the reusable Space Shuttle. It requires a hard look into the future and an almost limitless balancing of options to arrive at the one most economical and efficient solution.

In the first six weeks of the Shuttle contract, the Space Shuttle team considered 29 configurations and then whittled the number to nine. These nine most promising designs are now the focus for intensive study, and by the end of September, the single configuration reprsenting the best approach to each of three Grumman/Boeing concepts will be selected. Here is how the three concepts stack up:

- Concept A: A stage-and-a-half reusable orbiter-type vehicle with solid rocket motors and/or droppable propellant tanks.
- Concept B: A reusable orbiter launched on an existing expendable booster, such as Boeing's Saturn 1C, or on a new minimum-cost first-stage liquid- or solid-propellant booster.
- Concept C: A completely reusable booster and orbiter, emphasizing existing Apollo and aircraft kinds of hardware, and existing J-2S engines. (Retrofit for future performance as engines are updated.)

Big date in December

In December, the one concept and probably a single configuration will be chosen —and the space team will concentrate all its energies on the concept to be evolved in detail during the remainder of the contract.

"And that will be a hard decision, narrowing it to one," Fred Raymes said last week. "That configuration will have to be an attractive, low-cost transportation system that will have a chance to fit the NASA budget during the next few years."

Fred Raymes

Raymes has brought a new perspective and far-ranging experience to a Grumman space team that has worked closely together for many years. He was an Engineering manager on the Apollo Program and Program manager on Advanced Logistics and Space Shuttle studies at North American Rockwell Aerospace Division for eight years. Before that, he spent two years on a classified Maneuvering Entry Vehicle Program at Aerospace Corporation, and an earlier stint at North American on the B-70 and X-15 Programs. At Grumman, as one of two assistant Space Shuttle Program directors, he has the responsibility for over-all management of the NASA Shuttle contract effort. Howard Wright, the other assistant Program director, supports the Shuttle effort with in-house studies.

As Raymes talked in his office at Plant 25 (with no words wasted, for time was pressing), the Shuttle in all its ramifications was being discussed and evaluated by 25 NASA representatives and their Grumman/Boeing counterparts in simultaneous meetings all around him. The date was August 20, and this was the first major NASA-Grumman configuration review since the program got under way. Following these sessions, Raymes and five others flew off to Houston to brief NASA management at the Manned Spacecraft Center.

No single solution

Raymes says there is no single solution to lower-cost space transportation, "but some of our configurations cost about half as much for development as those of North American and McDonnell Douglas, the firms working on Study B, and our operational costs are competitive."

Raymes works very closely with Project Engineers Dick Kline and Tom Barnes and the managers who are in charge of the three major concepts: (A) Bob Watson of Grumman, (B) Al Hunt of Boeing, and (C) Gray Smith of Grumman. Max Braun of Boeing is Raymes' deputy and leads the Boeing team members, who are integrated with Grumman on every aspect of the study.

Raymes, who was born in Germany and educated at The City College of New York and the University of California, says he finds the people at Grumman "without exception extremely talented. They have an innate capability to do this job. And I personally feel," he added, "that Grumman's biggest asset besides talent is the keen individual involvement of top management. We see them almost on a daily basis. With that kind of attention, I feel we have every opportunity of winning the competition. But, let's face it, top management needs help. We can't expect them to sell Grumman by themselves. They need the best all of us have to give; that means work, imagination, and that extra effort that distinguishes Number One from Number Two."

He was talking about President Lew Evans and Senior Vice President Joe Gavin, director of Space Programs, and Senior Vice President Grant Hedrick, Vice President - Technical Operations and others. Vice President Larry Mead is the director of the Space Shuttle Program and Tom Kelly is deputy director.

Elect David Grumman to Board of Directors

David L. Grumman, Vice President of P & W Engineers, Inc. of Chicago, has been elected to the nine-member Board of Directors of Grumman Corporation. The announcement was made by Clint Towl, Chairman of the Board, following a meeting of the Board on August 11.

David Grumman is the son of Leroy R. Grumman, founder, former President and Chairman, and now Honorary Board Chairman, for whom the Grumman companies are named. The son succeeds Ellis L. Phillips Jr., who resigned as a Grumman director to accept the presidency of Ithaca College; the term as Board member expires in 1973.

A graduate of Cornell University with a Bachelor's degree in mechanical engineering in 1957, David Grumman began his professional career following two years of service as a U.S. Navy engineering officer. He was originally associated with P & W Engineers, Inc. in 1966 when the company was formed as an independent affiliate of the nationally known architectural firm of The Perkins & Will Partnership. He became Vice President of P & W Engineers, Inc., in the year of its formation. At present he is in charge of Technical Development. He is a registered Professional Engineer.

David Grumman

Grumman is a director, also, of the Ellis L. Phillips Foundation, of the Community Hospital of Evanston, and of Chicago's Channel 11 educational TV station. He is on the Evanston Planning Commission and the Cornell University Council, and he holds memberships in a number of professional engineering societies.

He and his wife, the former Blair Perkins, have three children. They live in Evanston, Ill.

At your service

The initials I.R.S. tend to bring to mind that formidable institution, the Internal Revenue Service. However, at Grumman I.R.S. has a new connotation. Many valuable services have been brought together in a new Corporate department called Information & Record Services, with Claude Gibson as manager and Dick Talford as assistant manager.

These I.R.S. components, all related and made more available for Grumman employees, are: the Corporate Library, downstairs in Plant 35; Classified Document Control and Corporate Correspondence Control, both on the first floor of Plant 35; and the Records Retention Center, same location as before, near Hazel Street gate, Bethpage.

I.R.S. is under the jurisdiction of Dick Higgins, deputy director to Bob Bradshaw, director of Corporate Services.

Working couple gets tax hints

Income tax for working couples has a new complication, according to Grumman Chief Paymaster Charlie Buxton. On plant bulletin boards you will find posters explaining why married couples (both spouses working) should arrange to have an additional amount deducted from their wages if they don't want to be hit next April with a large amount still due the Federal Government.

The poster from the Internal Revenue Service explains it this way: "If **both** husband and wife work, the withholding system has never been geared to withhold the full amount of tax on their combined income. This difficulty is aggravated by the new Low-Income Allowance. The withholding system gives **each** spouse a Low-Income Allowance even though as a married couple **only one Low-Income Allowance** will be allowed when they file a joint return. This means that they may owe a large and unexpected tax at the end of the year to make up the difference between their withholding and their actual tax."

Solution: Buxton suggests that if you wish to change the number of your exemptions, ask for a W-4 form at Paymasters' or Employee Services Offices. The W-4 form also provides, on line 7, that the taxes based on exemptions may be increased by a specific amount of dollars which will also be deducted from your salary each week if you so desire.

This thing called concern . . .

(Continued from page 2)

About a year ago, we and other members of the NASA-Industry Apollo team helped in the accomplishment of one of man's greatest feats—the successful flight to, and return from, the moon. The knowledge and technology needed to accomplish that trip will contribute to the betterment of *all* mankind. That signal victory demonstrated that man is capable of seemingly impossible things—both here on earth, and in space.

In addition to space and defense, we are now involved in such fields as ocean systems, ecological systems, and high-speed transportation, areas that can improve the quality of life in our nation. That will have little meaning, however, unless a person is also provided with the economic means to improve his own quality of life, and maintain his dignity as an individual, as well.

Beneficial impact

So, when we investigate new areas of endeavor, we must be concerned about our own people, and whether we can continue to provide jobs for them, and possibly for more people in the future.

Sometimes we forget that business means jobs and jobs mean wages. For example:

- Grumman paid more than $8½ million in real estate taxes in Nassau and Suffolk counties over the past three years
- The Company spent an average of three-quarters of a million dollars in each of those years for scholarship grants, health services and other community needs
- Grumman awarded over $312 million in sub-contracts to local industries (which provided more jobs and wages)
- Grumman people living in Nassau-Suffolk earned more than $708 million (*after* Federal and state taxes) during that three-year period

A lot of that money was spent for food, clothing, heat, light, and a host of other consumables and services—and undoubtedly most of it was spent with local merchants and professional people.

Some of those earnings helped pay for the many schools sprouting up all over Long Island, and for teachers' salaries (among the highest in the nation). Then, too, many of those dollars flowed into banks for mortgages, savings, loans, and checking accounts.

One thing *is* certain: Grumman, and the people of Grumman, have had a wide and beneficial impact on the economy of Long Island.

Summing up, this all leads up to something called concern. We at Grumman have to be concerned about producing quality products, on time, within cost. We have to be concerned, when we consider new areas of development, that we continue to provide jobs. And finally, I think that our elected representatives and local businessmen have to be concerned about the health and stability of Grumman.

We should not expect preferential treatment; all we can expect is fair treatment. We expect people to be concerned enough to *try* to understand some of our problems.

Grumman is not just a physical complex of plants and equipment; more importantly, it is people—many, many talented and dedicated people. They form a natural resource for Long Island and New York State, a human resource that, once depleted, will be very difficult to recover.

We hope that our people, our representatives in government, and our neighbors in local communities, think of it that way. We hope, too, that they are aware of our accomplishments and capabilities, and, hopefully, as proud of them as we are. We are all bound together. We know it. We hope everyone else does, too.

Lew Foods

Graduate first Grumman Masters Fellows; name 20 more to program

A new group, the third in Grumman's Masters Fellowship Program, is about to start two years of combined study and work to get a Master's degree and a broad look at design engineering in Grumman Aerospace. The Program was originated by Senior Vice President Grant Hedrick two years ago, and the first group has just completed its two years of work-study, another group is going through, and the third is just starting. Ten of the men in each group are Grumman engineers and 10 are top engineering seniors from the nation's campuses.

The Grumman engineers: Don Foos, John Flynn, William Jorch, Fred Neuscheler, Carlos Paez, Joseph Rivera, Chris Seitz, Vito Simone, Bob Solomon, Glenn Spacht. The 1970 college graduates: Don Andreasen, Don Brown, John Morse, Chris Hughes, Joe O'Toole, Joe Palmieri, Bob Schenck (a Grumman Scholar), and Kenneth Schachmut (a "Grumman Son" Scholar).

Graduating applicants and Grumman engineers nominated for the Fellowship by their supervisors are screened by a Recommendation Committee of which Dick Cyphers is chairman. The committee includes representatives of every engineering area in the Company. Their findings and recommendations are passed along to the Fellowship Committee of top Grumman executives, which makes the final selection.

This year Grumman had 400 applications from new college graduates.

Recent grads. **Masters Fellowship graduates, having finished two years of work and study under Grumman Masters Program, met for luncheon and a photo last month: (Front) Frank Altieri, James Becker, Andrew Kish, Frank Marconi, Ed Williams, Program coordinator; (standing) Dick Scheuing and Jim Brennan, (committee); Dennis Berde, Richard Shaper, Roger Lee, Charles Case, John Peronnet, Jack Russell, Dan Avery, John Drndak, Dick Sanchez (committee), Joseph Bono, George Dilorio, Dick Imgram (committee), Herb Chameroy, Don Spetta (committee).**

They've got something to smile about...

George Wall

Joe Mahoney

George Wall doesn't like to think about what his eye could have looked like if he hadn't been behind safety glass.

One morning, at the start of the shift, Wall was working in Fuselage Minor Assembly, Plant 2 (he's in Plant 1 now), when, after shutting off the main air line, he started to disconnect an air hose. BAM! The air pressure that was still in the line sent the hose whipping toward his left eye. He had failed to hold the connecting hose close enough to the connection, and the male end flew up and belted the left lens of his prescription safety glasses. The lens broke (outward, as safety lenses are engineered to do), into a thousand fragments. One small piece of the glass had to be removed from his eye, but that was minor; he had his sight.

So now, after 25 years with Grumman, George Wall belongs to the Wise Owls, the lucky ones.

Joe Mahoney belongs to the Wise Owls, too, but he had already learned a painful lesson four years ago. He had an accident when he was wearing prescription, but not safety, glasses, and his eye was cut, inside and out.

This time, for Mahoney, who works in Final Assembly, Plant 2 nights (but is on loan to Plant 1), the unexpected hazard was a heavy-duty aluminum oxide resin fiber grinding disk he was using. Some particles of the aluminum oxide flew up and struck his right lens with such force as to shatter it. The safety glass held, and his eye was saved.

Such accidents have prompted Vice President Corky Meyer to establish a mandatory eye protection program in the more hazardous shop areas, with prompt results. Strict requirements for wearing safety glasses in Plant 3, beginning late in 1968, led to a 50% decrease in eye injuries there. Later, the mandatory eye protection program introduced into Plant 36 led to an 81% decrease there, to a 65% decrease in Plant 27, and to a 56% decrease in Plant 1: significant drops, even allowing for the reduction in force during the same period.

Eye protection being one of the important responsibilities of the Corporate Safety Department, Corporate Safety Manager Dick Sanchez is making it easy for those with a need for prescription glasses to get them made up with safety lenses. "Sightscreening" of about 2,500 Grumman employees by Grumman licensed opticians has shown that persons in the older age brackets are most likely to need new or updated prescription lenses. For example, in Plant 32, Sag Harbor, the survey indicated that in the 41-50 age bracket, 52% needed prescriptions; in the 51-60 group, 51%; and in the 61-and-over bracket, 50%. For anyone who needs eye protection on the job and gets a prescription from his eye doctor, Grumman will furnish safety glasses, made to prescription, without charge.

The mandatory eye protection shop areas, where safety equipment is required, are Plants 1, 3, the Structural Test Hangar in Plant 5, Plants 27, 32, and 36. Plant 2 shop will be next.

Visitors' eyes are important, too, Sanchez emphasizes. Visitors to such areas should obtain eye protection from dispensing stations or plant receptionists, returning the safety glasses before leaving the building.

Eye protection is for YOU—in the interest of saving that which, to quote Corky Meyer, is "irreplaceable, the gift of sight."

Hobby exhibit

A showcase for your leisure-time accomplishments, your woodworking and sewing and knitting and model airplanes, is being revived. After a year without a Grumman Hobby Show, the Grumman Athetic Association is planning one for 1970 and urging everyone to participate.

The Hobby Show will be open Thursday through Sunday, Oct. 15 - 18, in Plant 28 Auditorium.

Call the GAA office, Ext. 2269 or 2133, or Katherine Eng, Ext. 335 at Calverton, for additional information.

Calling for help

"Hello" is a bad word in the books of Grumman's Communications Services. It wastes telephone time. Try something like "Service Department, Crocker speaking."

Grumman is making a concerted effort to bring down the very high cost of telephone service. Consult the front pages of your new Grumman telephone directories and follow these important cost reduction tips:

- Is this call necessary? Would a letter do?
- See pages ii and iii of Grumman directory for the most economical way of placing your call.
- Have material at hand; be ready to talk.
- Make the call brief.
- Use 56 (the WATS number) for all calls west of the Mississippi (this is a leased service). And program all long distance calls (except New York State) on 56 before 11 a.m. (and even later in the day if they are expected to be long).
- Correct your directory to read: "When necessary to make a long distance call on 50, use **station-to-station** dialing if the person called is known to be readily available."
- Restrict personal calls to emergencies only.
- Report changes in telephone numbers to the chief operator, using EDPC card 45B.

Garden Forum slates Dahlia Show, Sept. 10

Thursday, Sept. 10, will be pumpkin and tomato day at Plant 2 Cafeteria, but they won't be on the menu. Vegetables and fruits are part of the annual Dahlia Show sponsored by the Grumman Garden Forum, and a very colorful display it always is. Last year Mal Ketcham of Weld & Support, Plant 6, bowled everyone over with an 80-pound pumpkin grown on his farm near Speonk. That was in Plant 28. This year the shows are being held in Plant 2 Cafeteria.

Novice exhibitors are urged to compete, and if they have questions about how to display their entries, or what is eligible, they may call Show Managers Karl Hagen, Ext. 3661, or Lynn McDonald, Ext. 9113. John Schineis, a retiree active in the Garden Forum, is also a show manager.

There will be a place for novices in each class. A "novice" for the Dahlia, Fruit & Vegetable Show is "anyone who has never won a blue ribbon in any garden show." Flowers other than dahlias will be eligible for competition under "seasonal material."

Hours of the show are 11:50 a.m. to 1:25 p.m. Bethpage exhibitors should have their entries at Plant 2 Cafeteria by 8:30, Calverton in the Plant 6 lobby by 7:30, and Wyandanch by 8.

Scholar forms

Application forms and information on the Grumman Evening Scholarship Plan for Tuition Reimbursement will be available after Sept. 1 at Employee Service offices, engineering counters, base administration offices, and in Personnel, Plant 28. Deadline for filing for tuition reimbursement is 15 days after the last registration date of the school in question. No applications will be accepted after termination of classes, according to the Evening Scholarship Office.

Completed applications should be sent to Evening Scholarship Program, Dept. 327, Plant 38.

OBITUARIES

Plane News has received word that death has come to the Grumman personnel listed below. We extend sincere sympathy to relatives and friends.

ROBERT L. STEFFENS of Facilities Maintenance, Plant 12, died July 18 at the age of 45. He had been with Grumman since 1959, and he lived at 735 Little East Neck Rd., West Babylon.

JOHN F. DUNNE died July 21. He was 52 years old and had been with the Company 15 years. He worked in Facilities Maintenance, Plant 5, and his home was at 2202 Plum Tree Rd., North Westbury.

LOUIS DE FRUSCIO died July 21 at the age of 55. He worked in Steel Parts Assembly, Plant 2, and had been with Grumman since 1951. He lived at 247 Kramer Dr., Lindenhurst.

MICHAEL KOZLOFF of Receiving Inspection - Electrical Test Lab, Plant 24, died July 22. He was 56 years of age and had been with the Company for 32 years. On leave of absence, he was living at 3615 W. Acapulco Dr., Hollywood, Fla.

ALAN ECCLES died July 30. He was 24 years old and had been with Grumman six years. He worked in Instrument Test, Plant 6, and lived at 54 High View Dr., Selden.

JOSEPH E. GUNTHER of Reproduction Services, Plant 25, died August 16 at the age of 53. He had been with the Company three years. His home was at 92 S. Clinton Ave., Bay Shore.

ALEXANDER F. HAMILTON died Aug. 19. He was 57 years old and had been with Grumman since 1966. His department was Equipment & Installation, Structural Analysis, Plant 35, and he lived at 10 Dewey Ave., Amityville.

JOHN E. MASON of the Grind & Mills Department, Plant 2, died Aug. 21 at the age of 53. He had been with Grumman seven years. He lived at 68 Beecher Rd., North Babylon.

J. Wapniarski
Fuse. Sub.

C. Abrams
Press

R. F. King
Propul. Test

L. J. Conway
Spotweld

F. P. Howell
Final Assem.

F. Von Schwanenfleugel - O&R

A. L. McKay
Corporate Officer

E. Wilber
Instr. Test

C. Stewart
Facil. Maint.

Many with long service in Company mark August anniversaries

August 1970 has brought the 25th anniversary of V-J Day, when World War II ended with the surrender of Japan, Aug. 14, 1945. This appears to have been a month of heavy hiring in 1940, because the Grumman 30-year roster for August is the longest for any month thus far: 29. There are also 20 joining the Quarter Century Club this month, including two women.

Two men completed 35 years on Aug. 8: Edward S. Combes, Plant Management & Staff, Plant 2, and Peter W. May, Plant Management & Staff, Plant 27.

Marking 30 years with Grumman are:

PLANT 1: Louis J. Trapani, Prototype, and John F. Grosskurth, Manufacturing Planning & Control Management.

PLANT 2: Stanley P. Hudinski, Press; Louis Feceli, Steel Parts Assembly; Victor E. Plitt, Tool Fabrication - Metal Form Tool; Edwin Petterson, Tool Fabrication - Non-Metal Form.

PLANT 3: Anton J. Stecher, Fuselage Assembly.

PLANT 4: Leroy A. Abrams, Production Project Managers.

PLANT 5: Stanley Coljeski, Cold Flow.

PLANT 6: Amos L. Purcell, Instrument Test, and Irving C. Kasten, Electronics Repair.

PLANT 7: Richard A. Pollog, Flight Operations, and Louis E. Salvante, director, Air Traffic & Radio Communications.

PLANT 14: Joseph A. Reckert, Electronics Test, and Walter A. Schultz, Hydraulics.

PLANT 17: Michael De Meo, Shipping & Spares Administration.

PLANT 21: John J. Murray, B/P & Off-Site Warehouses.

PLANT 22: Randolph H. Bynoe, Advanced Programs - Manufacturing Plans/Cost.

PLANT 29: Joseph C. Hejl, Controls.

PLANT 30: Robert F. Meehan, Receiving & Stores - Management & Staff; Henry L. Weisler Jr., Planning & Control Management & Staff; John D. Donlon, P/S Program Supply Staff.

PLANT 31: Walter Wenchel, Static Test Engineering.

PLANT 34: Reno J. Nicoli, Mechanical Systems.

PLANT 35: William J. Noonan, QA Supplier Control.

PLANT 36: Benny Krysinski, Fuselage Major Assembly.

PLANT 38: Henry S. Carpenter, Training & Development.

PLANT 41: John W. Morley, Production Management & Staff, Grumman Data Systems.

PLANT 52: John M. Buxton, manager, Houston Operations, MSC.

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The 20 whose Silver Anniversary falls in August are:

PLANT 1: James Wapniarski, Fuselage Sub-Assembly.

PLANT 2: Charles Abrams, Press; Robert F. King, Propulsion Component Test.

PLANT 3: Louis J. Conway, Spotweld.

PLANT 4: Frank P. Howell, Final Assembly; Felix Von Schwanenfleugel, Gulfstream O&R.

PLANT 5: Adelaide L. McKay, Assistant Corporate Secretary, Grumman Aerospace.

PLANT 6: Edwin Wilber, Instrument Test; Charles Stewart, Facilities Maintenance.

W. O. Sog
Saw

G. Litsch
Transportation

G. F. Rohr
Glass Canopy

G. W. Simpson
Prod. Contr.

PLANT 17: William O. Sog, Saw.

PLANT 20: George Litsch, Transportation Operations.

PLANT 27: George F. Rohr, Glass Canopy; Stanley J. Hauser, Nacelles; George W. Simpson, Production Control - Parts Control Detail; Harry Valentine Jr., Inspection - Mechanical.

PLANT 29: John P. Maxey, Parts Paint.

PLANT 30: Elmer H. Evans, Requirements Planning; Elizabeth R. Gardner, Planning & Control Management & Staff.

PLANT 36: Grover A. McCombs, Contracts Aircraft.

PLANT 37: Joseph A. Hruby, Maintenance/Repair/Operations Supply.

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One woman and 37 men comprise the 20-year roster this month.

PLANT 1: Charles G. Layman, Mechanisms.

PLANT 2: Frank Wessel, Alodine; Andrew Emanuel, Final Assembly; Michael Napolitano and Harry J. Schaal, E-B Welding; John A. Allen, T/M Methods Engineering - New Programs; Arthur R. Westerfeld, Production Manufacturing Administration; Frank Stempien, Intra-plant Transportation; Eric A. Sandelin, Tool Fabrication - Jigs & Fixtures; Clifford Johnson, Facilities Maintenance; Frederick R. Petter Jr. and Frederick J. Stephen, Inspection - Mechanical.

PLANT 3: Thelma O'Neill, Plant Management & Staff; John T. Earl, Inspection - Mechanical.

PLANT 4: Francis A. Walsh, Production Control - Parts Control/Major.

PLANT 5: Giuseppe Ceccoli, Facilities Maintenance.

PLANT 6: William A. Opitz, Support Equipment Production.

PLANT 11: Stanley P. Popielaski, Center Section Sub-Assembly.

PLANT 12: Stephen Zydowsky, Facilities Maintenance.

PLANT 14: David E. Farabaugh, Electrical Engineering Laboratories.

PLANT 17: Harold B. Charlton, Critical Material Control.

PLANT 18: Vincent Palmese, Plant Protection.

PLANT 25: John Strakosch, Project Engineering - Development Space; William C. Craft, Program Management Space.

PLANT 27: John R. Strachan, Inspection - Mechanical.

PLANT 30: Arthur N. Mowery, Schedules & Status; Frank J. Cipriano, Product Support Provisioning Requirements.

PLANT 33: Samuel Fleischer, Avionics Assembly; John A. Hubler, Production Control - Parts Control Detail.

PLANT 34: Herman P. Wenz, Product Support Program Management; Henry P. Larkin, Product Support Pricing; John A. Wallace, Project Engineering - Development Aircraft; Edward A. Wagner, Program Management A-6; Melville Bray, Configuration Data Management.

PLANT 36: James B. Aherne, Structural Designers.

PLANT 39: Warren F. Husted, Manufacturing Test.

PLANT 55: Herbert F. Klumpe, Tool & Die - Machine Shop, Savannah.

PLANT 80: George R. Haltermann, Field Base Administrator, San Diego.

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Two women and 54 men racked up 15 years with Grumman:

PLANT 1: Michael F. Cycon, Inspection - Mechanical.

PLANT 2: Nelson J. Giordano, Router & Shear; Alan L. Dezmain, Heat Treat; Robert Hurtig, Prototype; Richard A. Schwier, Steel Parts Assembly; Peter L. Treffeisen, Support Equipment Production; Stephen J. Petrowski, Photo & Television; Harry Spruchman, Max E. Hendrickson, and Edwin J. Brooks, Inspection - Mechanical.

PLANT 3: William I. Butler, Machine Shop; Anthony Liedtke Jr., Machine Shop - Technical Services; Joseph S. Vanderloski, Intra-plant Transportation; Peter Kurajian, Facilities Maintenance; Bernard J. Morgenstern, Material Review Engineering.

PLANT 5: Donald Colouhoun, Donald J. Cook, and Nathan Kirschbaum, Advanced Aircraft Systems; Charles W. Eppelsheimer, Inspection - Electronics; Michael Graziano, Inspection - Aerospace Assembly.

PLANT 6: Stanley W. Wiercinski, Plant Management & Staff; William M. Clough, Plant Stores & Distribution; George M. Lofsten, Government Material Control; John Stadnicki, Facilities Maintenance; Edwin W. Ferris Jr., Vehicle Instrumentation.

PLANT 7: Jay G. Stadler, Computer Design.

PLANT 11: Warren Velsor, Tool Fabrication - Plastic Tools.

PLANT 12: Ellis Beyer, Chemical Engineering.

PLANT 15: Joseph F. Hannan, Program Management - F-14A.

PLANT 17: Karl A. Watjen, Central Property Disposal.

(Continued on page 8)

Youth, enthusiasm pay off in experience, warm friendships for Grumman Scholars

It might gratify the Grumman Scholars — those young men and women whose tuition is being paid by Grumman for four years of engineering and related studies—to know that top management really looks to them as leaders of the future and values their young ideas and enthusiasm now. "We need young blood, and youth and experience make up a winning combination," is the way Vice President George Skurla phrases it.

Skurla has taken a special interest in the 35 Grumman Scholars who have been working in the Long Island plants this summer. He's been meeting as many as he can for a chat about their interests and ambitions, and finding out what they're thinking.

Summer business. **'Grumman Son' Scholar Ben Kirkup has had various summer jobs at Grumman, none more congenial than running computer program on the IMB 1130. Mike Schwartz of R.P.I. (upper right), a Grumman Scholar, works on F-14 wing box drawing.**

Bill Schwendler, Chairman of the Executive Committee, whose interest in Grumman Scholars has spanned the 27 years since the Program began, insisted that these young people are to be placed in jobs to give them the kind of experience that will be useful to their careers. This has been heluful to them, and since they are now on an indirect charge budget, useful also to prospective supervisors, who no longer see them as "a cloud in the overhead," but as a helping hand.

Production job 'productive'

Sometimes, as in the case of Ray La Sala, a riveting job hasn't turned out to be a bad assignment, although in 1966, when he was a freshman, it seemed hard. "Actually, that was probably my most productive summer," he says now. Ray is going on to graduate school at Stanford University, fortified with summer assignments that have encompassed computing and systems analysis and evaluation of aircraft for the future. "And now I'm strongly motivated, and I know how to get around," said he, sounding well seasoned.

Mike Wollman, just out of high school and headed for R.P.I. next month, may look back on his first Grumman summer as a learning experience, too. A routine job in Production Control in Plant 4 most of the summer kept him from the training and seminars that were being dispensed, but he had the advantage of an interested adviser, Fred Wohllebe, who will now see that he gets a congenial assignment next summer.

The plan of matching an adviser to each scholar at the beginning of his Grumman career has proved to be an important adjunct to the Scholar Program, with the advisers in a position to help place their charges in suitable summer jobs. Fred Edwards, who was himself a Grumman Scholar, takes a mighty interest in his student, Mike Schwartz. They've kept in touch regularly, and Fred has tried to see that Mike had a logical progression of jobs, to suit his mechanical bent and to develop his interests. "These kids are pretty sharp. They have get up and go," Edwards says.

Another perspective

Jim Kobus, whose adviser is Hank Brodman, worked in the shop two summers ago, and he's satisfied that his summer job and his courses at R.P.I. mesh well. "I think we students can offer something to the Company in the way of interpreting how we look at the world and its needs," he adds.

Brian Bucalo, a sophomore at M.I.T., mentioned that Bill Wenzel, who coordinates the work of the advisers and administers the Grumman Scholar Program, had been "very helpful" to him. "I'm really happy here," Bucalo said. He aspires to be an electrical engineer, and this summer he has had a go at the 360 computer, doing F-14 mission analysis. He calls his adviser, Dr. David Ives, "a great guy."

The Grumman Scholars have but to look around to see previous Scholars in positions of great significance: Tom Kelly and Dick Kline and Dick Oman on the Space Shuttle managerial team, for example. Scholars bring ideas and enthusiasm to Grumman. The Company will be looking to them for the pioneering efforts of the not too distant future.

These Grumman Scholars had summer jobs in the Long Island plants:

GRADUATE: Benjamin Kirkup (son), Raymond La Sala.

CLASS OF '71: David Blumenthal (son), Arthur Djang. Leonard Friedman (son), William Jaklitsch, Paul Roeder, Ronald Scharff, Jeffrey Spahn (son), Lee Sparling, Chris Stetz.

(Scholar photos by Nat Scherer)

CLASS OF '72: Paula Hurewitz (daughter), William Jones, James Kobus, James Marquardt, Robert Reed (son), Michael Schwartz.

CLASS OF '73: Mitchell Adler, Steven Altchuler, Mitchell Bogart, Brian Bucalo, Robert Carlson (son), Alan Darnowsky (son), Peter Greene, Janice Henze (daughter), Lawrence Levinson, Douglas Loesch.

CLASS OF '74: John Erickson, Robert Fortunato, Joseph Martino, Robert Scaringe, Robert Steingart, Sara Roth (daughter), Jonathan Tillem (son).

Attridge: wide potential in ecological field

Recently a Grumman Gulfstream I specially modified for ecological studies took off for Calgary, Canada, and a summer of flight-study work.

This Gulfstream is like none other the Company has built, featuring a "marriage" of commercial and military technology. Without loss of its capability as a passenger aircraft, this Gulfstream has:

- A 16-foot magnetometer boom
- An infrared line scanner
- Provisions for simultaneous multi-spectral photographic imagery acquisition
- An analog and digital data acquisition system

Full readout. **Bob Pate, systems operator in Grumman's new Ecosystems Department, scans strip chart recorder for the magnetometer installed in a modified Gulfstream 1 which acquires environmental information. (Photo by Nat Scherer)**

With this bundle of capabilities, the recently created Ecosystems Department is in a position to tackle a wide range of tasks, such as agricultural, mineral, and botanical surveys. The feasibility of such work has already been proved through NASA-earth-resources work and by Gulfstream test flights over New Jersey, Long Island, and New York.

A SLAR (side-looking airborne radar) equipped Mohawk made a radar map of Massachusetts, for instance, and that state's chief geologist found there were faults and fractures that previously had gone unnoticed. But this is but a small indication of what could be done. The big picture comes close to being all-encompassing. As Tom Attridge, Operations manager in Ecosystems, says:

"We're looking at Man and his environment. We're looking at pollution problems, wherever they may be, on land, in the air, in rivers, lakes, or oceans. We're assessing the future—mitigation or solution of problems **before** they become problems.

"We're looking, in short, at any environmental area where we can do something constructive and make it financially profitable for Grumman."

Ecosystems' viewpoint reaches far beyond the use of its electronically altered Gulfstream: The Ecosystems group will be systems managers, providing others interested in ecological studies with background information, program approaches, and direct assistance on a subcontract basis with other aircraft owners.

Bill Schwendler Jr. heads the Ecosystems Department. Some others in the unit include Walter Berndt, pilot; Mike Tenzyk, co-pilot; Ralph Frei, project engineer; and Ray Ryan, Mark Borrelli, Bob Pate, and Gary Kerwin, systems operators.

Voluntary courses. Reading Workshop offered by after-hours Voluntary Education Program lets the student improve his reading at the speed that is comfortable for him. Registration is going on until Sept. 4. Classes in many subjects will begin Sept. 14, and the instruction is free. High School Equivalency and 'skill' courses are among the most sought after. (Photo by Fred Annette)

Training offers dial service for fall courses

Wish you knew more? Wish you could read faster? Thinking of improving your old skills—or discovering new ones?

Pick up Grumman's new catalog of free, after-hours Voluntary Education courses and see if you can't find something to interest you. There must be one there that could help you on a future job or improve your skills on your present one.

- Courses begin the week of Sept. 14. Registration is now under way.
- Voluntary Education catalogs are now available at all Employee Service Offices, engineering counters, Training & Development Offices in Plants 38 and 6, and from the receptionist in Plant 28.
- Registration will continue through Friday, Sept. 4, at 4:30 p.m.
- Register by phone—it's that simple. For the Monday evening courses, call Ext. 87521; Tuesday evening courses, Ext. 87522; Wednesday evening courses, Ext. 84413. For Thursday evening courses, and for daytime classes offered for night shift personnel, call Ext. 1282, and for Calverton classes, call Ext. 381. Registration, 7 a.m. to 4:30 p.m.

Questions? Call Voluntary Education administrator, Ext. 84413.

- All classes will begin the week of Monday, Sept. 14. **Instruction is free.** Courses in Bethpage are given 5-7 p.m., Calverton, 4:30-6:30 p.m., Bethpage courses for night personnel, 1:30-3:30 p.m.

'Do-it-yourself' reading

Gus Lanzo, deputy director of Training & Development, calls attention to the twice-a-week Reading Workshop that appeals to those who feel they need special help in reading.

"The Workshop offers do-it-yourself reading practice geared to your own level of reading," Lanzo explains. "You have your private reading booth and run your own little reading machine, gradually increasing your speed and comprehension. There's a choice of reading material, so you read about the things that interest you and you learn as you go," Lanzo says.

A twice-a-week Reading Improvement course continues popular, too.

Other Voluntary Education courses being offered this fall include High School Equivalency, Applied Math, Beginners Typing, Gregg Refresher, Measurement Lab I, Basic Stress.

Some "skills" courses being offered for the first time, to provide manual craft experience, include Machine Shop I, Aerospace Mechanics I, Electricity I, Electronic Fabrication Techniques I.

It's a long list. The only cost might be for a textbook if one is required for the course chosen. (A special self-teaching series, Programmed Instruction, for those unable to take other classes, includes How to Write Effective Reports; The Secretary: Jill of all Trades; Trigonometry: a Practical Course. These cost $5 for the home-study books.)

Pick up a catalog and see for yourself what a range is offered. Grumman invites participation and especially emphasizes that you don't have to have a high school diploma to benefit from some of these courses. Registration should be made, by phone, not later than next Friday, Sept. 4.

EMMA. At F-14 Mockup Review session, pylon mounting and Sparrow and Sidewinder Missiles (R) were major concerns of Navy-Grumman participants: Capt. Mariand Townsend, chairman; Cdr. Corky Lennox; Joe Lengyel and Bill Mitco of Production; Jim McClelland of F-14 Armament. (Photo by Larry Van Wallendael.)

CU business brisk...

The Bethpage Aircraft Federal Credit Union is continuing to pay 5½% interest on savings. Meeting in June, the CU directors declared the 5½% rate, totaling $228,000, for the second quarter of 1970, ended June 30.

The Board also increased borrowers' life insurance from $3,500 to $5,000, effective July 1, 1970. This means that CU loans up to $5,000, made July 1, 1970 and thereafter, are now completely covered by life insurance.

With a membership of 27,700 and assets of $20,800,000, the Credit Union continues to do a brisk business in regular payroll and cash savings and in loans for home repairs, cars, boats, education, and vacations.

Anniversary roster

(Continued from page 6)

PLANT 18: Henry A. Mulligan, Plant Protection.

PLANT 22: Thomas J. McGowan, Advanced Programs - Management; William Savage, Manufacturing Plans & Proposals; Dickerson F. Cutler, Product Support Equipment Tech Management; Gilbert T. Chan, Alighting Gear.

PLANT 23: Walter J. Stehlin, Static Test.

PLANT 25: Albert V. Baker, Material Space Program; Richard L. Kline, Space Shuttle Project engineer.

PLANT 27: Erwin Bruns, Vehicle Production Engineering.

PLANT 29: Robert E. VanDyke, Inspection - Mechanical.

PLANT 30: Edward J. Reardon, Distribution Service; Albertus S. Hiester, Machined Parts/Raw Material; Louis Sammarco, Applied Business Systems; Lewis D. Simpson Jr., Applied Business Systems.

PLANT 34: John F. Nordin, Weight Analysis.

PLANT 35: Viola R. Rucker,Distribution Services; Harry T. Breul, Life Sciences.

PLANT 36: Elena M. Kranz, Reproduction Services; Richard J. Mahodyl, Project Engineering - Development Aircraft.

PLANT 39: Joseph A. Massa, Manufacturing Test.

PLANT 52: Edward T. Voit, MSC Technical, Houston.

PLANT 77: James F. Morgan Jr., Manufacturing Operations & Staff; Robert F. Grover, Flight Acceptance, Stuart.

PLANT 83: Robert N. Larsen, KSC Base Management; William E. Hansen and Bruce C. Gray, KSC Manufacturing Shops.

H. Valentine, Inspection — J. P. Maxey, Parts Paint — E. H. Evans, Require. Plan.

E. R. Gardner, Plan. & Contr. — G. A. McCombs, Contracts A/C — J. A. Hruby, Maintenance

Long days, short nights bring pay-off for after-hours scholars

A whopping number of degrees earned by energetic after-hours students makes the recording of all of them a problem-in-space. Some Masters' degrees were published in July. Here are some more—and a Ph.D., quietly earned in psychology, Department of Human Relations, by Jack R. Ellner of Life Sciences, Plant 5, through New York University.

The Masters' degrees, most earned with the financial assistance of Grumman's tuition reimbursement program, include these, reported to Plane News by the Evening Scholarship Program:

ADELPHI UNIVERSITY

Joel Bernstein, Space Shuttle, Plant 25: MBA; Stephen M. Chase, Antennas & Radomes, Plant 34: MBA; Richard G. Cleary, Operations, Plant 5: MBA; Thomas Dickens, Sub-Contract Management, Plant 30: MBA; Frank L. Downs, Financial & Research Planning, Plant 6: MBA; Gerard C. Dunn, Propulsion Technology, Plant 39: MS; Gerard W. Durst, Aircraft Project Planning, Plant 34D: MBA; Allen Eisenstein, RADAS Project Planning, Plant 5: MBA; Michael Elem, P/S Systems Analysis, Plant 15: MBA; Geoffrey Gardner, Life Sciences, Plant 35: MS; Felix R. Giacini Jr., P/S Systems Analysis, Plant 6: MBA; Reginald Grant, Guidance System Analysis, Plant 35: MS; Lawrence M. Holzapfel, Requirements Planning, Plant 30: MBA; Vahé Jordan, Operations Analysis & Planning Research, Plant 5: MBA; James Kerr, Engineering Professional Development, Plant 5: MS; Thomas E. Knoflick, Business Development, Plant 1: MBA; Stuart M. Kornreich, P/S Digital Engineering, Plant 34B: MS; Victor P. Maiorana, Opportunity Development, Plant 28: MBA; John A. Martorella, P/S RF Engineering, Plant 15: MBA; Peter J. Moonan, Guidance System Analysis, Plant 35: MS; Dennis N. Nitka, Management Information Systems, Plant 41: MBA; Willie F. Page, Production Management & Staff, Plant 2: MBA; Raymond W. Paul, Contracts Aircraft, Plant 34F: MBA; Richard Pawlowski, Corporate Audit & Procedures, Plant 30: MBA; Walter J. Ullrich, P/S Verification & Product Support, Plant 36: MBA; Melvyn Weiss, Computer Design, Plant 34: MS.

CITY UNIVERSITY OF NEW YORK

Vincent P. Gallagher, Life Sciences, Plant 25: MBA; David Gellman, Rocket Propulsion, Plant 39: ME; Leo Modenos, Alighting Gear, Plant 35: ME; Richard E. Schembor, Systems Analysis, Plant 15: ME; Robert Urgo, Space Project Planning, Plant 4: MBA.

COLUMBIA UNIVERSITY

Victor Himel, Environmental Control Design, Plant 25: MS; Alexander Kirillin, Project Management, EA-6B, Plant 34: MS.

FLORIDA INSTITUTE OF TECHNOLOGY

Lester W. Mueller, KSC Engineering, Plant 83: MS.

FLORIDA STATE UNIVERSITY

John T. Everett, KSC Engineering, Plant 83: MS.

HOFSTRA UNIVERSITY

Jack Gordon, Facilities Planning, Plant 30: MBA.

LONG ISLAND UNIVERSITY

Jack Altman, Aircraft Project Planning, Plant 36: MBA; Arthur H. Angst, Instrument System Design, Plant 35: MS; Stanley Barnett, Facilities Mechanical Engineering, Plant 30: MS; Robert L. Benoit, Flight Controls, Plant 25: MS; Sigmund S. Dicker, Engineering-Civil/Architectural, Plant 30: MS; Stephen R. Dondero, Operations Analysis & Planning Research, Plant 5: MS; Kenneth H. Ehlers Jr., Engineering Equipment, Plant 30: MS; Thomas S. Ervolina, Rocket Propulsion, Plant 39: MS; James R. Gould, Engineering Professional Development, Plant 5: MBA; Marvin Greenberg, P/S Servo Engineering & Training Development, Plant 34: MS; Stanley J. Jagodowski, Radar, Plant 34: MS; Carl F. Kottler Jr., Special Projects, Plant 35: MS; Joseph J. Maugeri, Component Application & Design Procedure, Plant 1: MS; John J. McDonough, System Integration & Interface Control, Plant 7: MS; Girard W. McKenna, P/S Fluid Mechanics Engineering/Design, Plant 33: MS; Anthony F. Nigro, RF Engineering, Plant 34: MS; John Pitera, P/S Digital Engineering, Plant 4: MS; Richard P. Pokallus, Measurements Technology, Plant 25: MS; Donald Pooters, Proposals - Advanced Projects, Plant 5: MBA; Ronald A. Reiss, Program Management Out-of-Production, Plant 22: MBA; Harvey Rubenstein, Systems Integration & Interface Control, Plant 25: MS; Joseph Schnipper, QC Program Management - Aircraft, Plant 36: MS; Olaf Thiede, Material - Space Program, Plant 25: MBA; Adolf Troje, Machine Operations - Technical Service, Plant 3: MS; James J. Vollaro, Electromechanical Design, Plant 15: MS.

NEW YORK UNIVERSITY

Alan S. Agdern, Operations Planning & Budget, Plant 5: MS; Daniel A. Cuoco, Structural Analysis, Plant 34C: MS; George D. Di Iorio, Structural Designers, Plant 1: MS; Oswaldo Ferrer, Air Breathing Propulsion, Plant 15: MS; George T. Hall Jr., Structural Designers, Plant 1: MS; Martin Kanner, Project Engineering - Development Aircraft, Plant 15: MS; Jerome Kirsch, Armament Control & Auxiliary Systems, Plant 35: MS; Joseph Melynis, Systems Design, Plant 15: MS; Bohdan A. Podoliuk, Structural Analysis, Plant 5: MS; James J. Terrone, P/S Digital Engineering, Plant 34A: MS; William R. Weiss, Acoustics Vibration Environment, Plant 35: MS.

POLYTECHNIC INSTITUTE OF BROOKLYN

Nicholas J. Andriotty, Operations Analysis & Planning Research, Plant 5: MS; Henry J. Baluta, Simulator & Digital Development, Plant 33: MS; George C. Belev, Structural Designers, Plant 25: MS; Kenneth J. Blakely, Environmental Control Design, Plant 1: MS; Alfred L. Cimino, Electromagnetic Compatibility, Plant 34A: MS; Paul D. Clanton, Radar, Plant 25: MS; Lowell A. Deutsch, Rocket Propulsion, Plant 25: MS; William Ducas, Equipment Thermal Design, Plant 41: MS; Ronald P. Edwards, Guidance & Navigation Equipment, Plant 22: MS; Milton L. Farkas, Structural Analysis, Plant 35: MS; Theodore Felber, Environmental Control Design, Plant 35: MS; Richard G. Herrmann, Antennas & Radomes, Plant 34: MS; Richard C. Janava, Vibration & Flutter Analysis, Plant 5: MS; Robert F. Kelly, Scientific Application Program, Plant 35: MS; Albert K. Klauss, Metallurgical & Chem Lab, Plant 12: MS; Benjamin K. Low, Grumman Data Systems, Plant 35: MS; Stanley Marderstein, P/S RF Engineering, Plant 15: MS; John C. Presta, Structural Analysis, Plant 25: MS; John G. Schmidt, Material Project Management, Plant 15: MS; Robert C. Schwarz, Experimental Mechanics, Plant 5: MS; John C. Spaziani, Equipment Thermal Design, Plant 25: MS; Isaac A. Stakem, QC Administration & Program, Plant 35: MS; Victor Star, P/S Digital Engineering, Plant 34: MS; Nicholas C. Stratakis, P/S Systems Analysis, Plant 15: MS; Richard H. Suttmeier, P/M - Management Information Systems, Plant 22: MS; Allen S. Weintraub, Aero Configuration, Plant 35: MS; Alfred F. Weyhreter, QC Lab, Plant 10: MS; Harvey G. Winnes, P/S Systems Analysis, Plant 34D: MS; Rudolph J. Zanella, Instrument System Design, Plant 41: MS.

PRATT INSTITUTE

Lawrence W. Gottschalk, P/S Site Requirements, Plant 15: MS.

UNIVERSITY OF FLORIDA

Richard V. Paradiso, Test Operations, Plant 83, KSC: ME.

QUEENS COLLEGE

Robert J. La Haye, Antennas & Radomes, Plant 15: MA.

STATE UNIVERSITY OF NEW YORK

Charles R. Waters Jr., Attitude Control Equipment, Plant 41: MS.

Summer days on the wane

Ocean beaches seem to stretch out as far as the eye can see, but there's one sure thing: the warm summer days remaining to enjoy them don't. And what brings on this sudden sense of nostalgia? Why, Lew Evans' latest announcement:

All plants will be closed on Labor Day, Monday, September 7. All personnel actively employed will be paid for the day.

And soon, the sun worshippers will start packing away sun tan oil, surf boards, and bikinis to the accompaniment of many a tear—it's a long, long way to next spring. It would be an ill wind that didn't blow someone some good, though. Don't be surprised to see little signs sprouting up on bulletin boards, bumpers, and lots of other places. What kind of signs? THINK SNOW, of course.

By the way, because of the Labor Day holiday, the next issue of Plane News will not be delivered until Monday, September 17.

Short shots

Jerry McMahon, an ECM engineer from Plant 34, elected recently as president of the Board of Education for Half Hollow Hills Central School District No. 5. . . . At the 28th annual meeting of the National Aero Space Services Association in Washington last month, Dick Seitz of Business Development, Plant 5, was named to a three-year term on the NASSA Board of Directors.

If you've been a little upset and confused lately by the concern and disagreement on the display of the U.S. flag, there is a little booklet now available at the Employee Services Office, Plant 2, that may help clear things up. About 500 copies of "Our Flag," a brochure that examines the history and tradition of the flag, and offers suggestions for its display, were supplied to ESO by Staff Sgt. Fred Kernen of the Marine Corps Recruiting office in Levittown. And the guy who started everything moving down the pike because he had heard so much discussion on the issue was Bill Penza of Vehicle Installation, Plant 35.

Art Rossoff, who has been a member of IEEE for more than 30 years, elected to head the L.I. chapter for 1970-71. Art is on staff to Bob Carbee, director of Space Development Engineering. . . . Bernie Rodstein of Technical Services Group, Grumman Data Systems, reports that his son Harvey has been accepted by the U.S. Naval Academy at Annapolis.

It takes a lot of doing to have a one-man show. But Harold Garde did, for a month, at Baiter Gallery, Huntington, and tomorrow, August 29, is the last day. Garde, who works in Engineering-Civil/Architectural, Plant 30, and also teaches art history at Nassau Community College, had in his exhibit expressionist paintings, in oils, acrylics, pastel and watercolor. And in black-light. He won three blue ribbons in the most recent Grumman art show. . . . Grumman's space-shuttle effort is getting moral support from far away places. Just recently, Joe Cubells of Operations Analysis, Plant 5, says he heard from a former co-worker, Warren Forrest, who is now an Army sergeant operating out of the Ashau Valley in Vietnam. Warren sends his best on our space-shuttle effort, and also asked that Joe pass along to Lew Evans that "his Mohawks and A-6As are doing rather well over here, too."

Last month, to commemorate man's first landing on the moon, Chuck Kroupa, director of operations at the Cape for Grumman, presented LM models to the mayors of Titusville and Cocoa Beach. Also, he joined T. J. O'Malley of North American Rockwell and movie star Hugh O'Brian to present Apollo 11 patches to 76 members of the Hugh O'Brian Youth Foundation.

Al Kordula, Pete Volpe, and Murray Loesch of the Ex-Service Men's Club cheered the men at the Northport Vets Hospital with a picnic the other day, and Nick King of A/C Systems Test played the piano for them. The Club is also sending ping pong tables and equipment, three card tables and chairs to match, to St. Albans Hospital, for the service men there. The annual Poppy Drive collection helps to finance these projects, and the Club thanks Grummanites for their Poppy support.

Varsity golfers again win Industrial crown; netmen in title playoffs after perfect season

There are some who say that death and taxes are the only sure things in life (and you can keep them as **your** friends), but judging from recent records of the Grumman varsity golf and tennis squads, that bleak outlook can be shelved, at least for a while.

While pacing the Company links team to its eighth straight title in L.I. Industrial play, Tony Cisco and Ken Cunningham fired two-over par 51s for 12 holes on the championship Black course at Bethpage State Park, in a 4-0 sweep over Photocircuits which cemented Grumman's claim to the loop crown. In that competition, Jim Alverson carded 53 and Steve Gray had 54.

Earlier, those "old reliables," Steve Gray and Tony Cisco, kept the Grumman golf team ahead in the run for the L.I. Industrial championship by scoring four points in a 5-3 win over Photocircuits. Gray, who toured 12 holes on the Black course at Bethpage State Park in regulation figures, had a birdie on the par 3, 150-yard 14th hole. Cisco went one over par but scored a birdie when he finished with four on the par-5, 470-yard fourth hole.

Jim Alverson and Ken Cunningham lost their encounter with Photocircuits, 3-1.

The Grumman swingers had been slowed momentarily in their drive to the Industrial title by halving a match with Republic at Bethpage, 4-4.

Steve Gray and Jim Alverson saved the day for Grumman in the second foursome by scoring a 3½-½ decision. Tony Cisco and Ken Cunningham dropped a 3½-½ match, although Cisco was only three shots over par.

Clean sweep in tennis

The Grumman varsity netmen are well on their way to another league title after clinching the "A" division in the L.I. Industrial loop with a 4-1 victory over Sperry while running their record to 8-0.

It was the second time that Grumman had clipped Sperry in league play, and the win earned the tennis squad a berth in the inter-league playoffs that were scheduled to start earlier this week.

Winning doubles teams in the clincher for Grumman were Fred Hermann and Bill Wenzel, 6-2, 6-1; Grant Hedrick and Pete Layton, 6-3, 6-4; Tom Adee and Wing Lee, 6-2, 6-1; and John Hsu and Dave McKendrick, 6-1, 6-2. Dick Kline and Val Kirillin lost 10-12, 6-4, 6-8.

Earlier, the squad had defeated Sperry, Pan American, Hazeltine, and Republic.

Sperry had been anticipated to offer the toughest duel of the season, but Grumman stroked to a 5-0 victory despite the absence of such star players as Bill Wenzel, Don Bohling and Grant Hedrick. Wenzel, the regular doubles partner of Captain Fred Hermann, has a shoulder ailment and may be out for the year. Last season Wenzel and Hermann were undefeated.

Against Sperry, Neil Pike and John Hsu played the No. 1 Sperry combo of Chuck Marquardt and Doug Maxwell and chalked up a 6-3, 0-6, 6-3 triumph. Hermann teamed up with Dick Reade and won 7-5, 6-2; Dick Kline and Val Kirilin scored an 8-6, 4-6, 6-3 win in the toughest match; Jacques Crouzet-Pascal and Jay Leng won by 6-1, 6-2; and Nevil Milford teamed with Dave McKendrick for a 6-1, 6-0 decision.

Grumman then defeated Pan American, 3-0, with Pike and Hsu winning 6-1, 6-1. The rest of the matches were won by default.

Pin loops seek keglers

Whether you're looking for fun or competition in pin play this year, there should be a league to meet your needs. There are still openings, for example, in the men's Trader league, which is looking for five-man teams, averaging between 790-810, for competition starting Friday, September 11, at 7:15 p.m. The loop will roll at Oscar's in East Islip, and an organizational meeting is set for tonight, August 28, at Oscar's starting at 8 p.m. If you can't make it, and you are interested, register your team (or yourself) with Joe Mallins, Ext. 819, or Joe Savino, Ext. 471, both at Calverton, or Hal Vetter, Ext. 2177.

The Black league, which is also looking for four-man teams, starts competition on Wednesday, September 9, at 7 p.m. at Mid Island Bowl, Hicksville. Team averages are between the 640-680 range, while individual keglers must have no less than a 150 average to get into the league. Call Ernie Neves, Ext. 6450 or 86054, for more information.

Big game on tap

When the Nittany Lions of Penn State and the Cadets of Army hit heads on Saturday, October 24, at Michie Stadium, West Point, the sound of the collision may carry all the way to Long Island. But if you want to be there to witness the big game, better call GAA, Ext. 2133, right away.

The Athletic Association has 300 tickets for the game, at $6 apiece, on sale at the GAA office, Plant 28B. Game time is set for 1:50 p.m., with a Cadet parade at 11:15 a.m. For $3 more, you can get a bus from Plant 28, with 8:30 a.m. departure.

That's it. For $9 you can be transported to West Point, see one of the big games of the year, and watch the famed Cadets parade in review. Call GAA, Ext. 2133.

Mighty Mike

Kennedy Space Center, Fla.—Marty Clark Sr. is shown above congratulating his young son, Mike, on the silver medal he won for a second-place finish in the Junior Olympics heavyweight wrestling competition held in Chicago, recently. Mike, who is 17 years old, stands six feet four, and tips the scales at 275 pounds. As defending Florida State heavyweight wrestling champ for 1970, he was invited to the National AAU Junior Olympics.

Mike will soon be starting his senior year at Merritt Island High School in Florida. He plays football, too; on defense he switches between guard and tackle and on offense he plays fullback.

Mike could be referred to as a scholar-athlete. He is a "B" student and ranked fourth in the county in scholastic aptitude tests. His father reports that Notre Dame, Florida, Georgia Tech and Mississippi are among the colleges that have expressed interest in Mike's future plans.

Marty Clark has been with Grumman for 10 years and now works in the warehouse at KSC. His other son, Marty Jr., has been a Grumman employee for five years.

Holding steady. **Dave Powell seems unperturbed by photographer Jim Wagner during play in annual summer golf open. Dave was one of more than 40 participants in the classic.**

Suppa medal winner

Willie Suppa, a former Grumman varsity golfer, edged Len Trafaro of Plant 27 for individual honors in the second annual summer golf tournament August 11 during play on the Yellow course at Bethpage State Park, Suppa, who works in Transporation, led Trifaro by three strokes as his 78 earned medal honors for the more than 50 participants in the GAA-sponsored event.

Although Trifaro had to settle for low-net honors of 72 (81-9), he also collected the longest-drive award for a 275-yard poke. Others on the winners' list included George Quick, who earned low-gross in seniors play with 83; Tom Trifaro, low-net in seniors competition, 86-12-74; Caesar Roscigno, second low-gross in open competition, 83; Ben Czizik, second low-net, 86-12-74. Frieda Giacona earned ladies' low-net laurels with 75. The prize for closest-to-the-pin went to John Clukies.

'Just for Fun'

And say girls, if you don't go for those long, drawn-out league schedules, there is a "Just for Fun" league recruiting keglers (women only) for a 20-week season starting Tuesday, September 29, starting at 5 p.m. at South Levittown. Call Shirley Reiss, Ext. 3778, or Diane Muldowney, Ext. 3309, to register.

Monopoles run into triple play but win, 4-3

It just isn't easy to pull off a triple play in softball and you'd figure that when the Road Runners did just that in Monday night National play they'd be higher than a rooster on a weather vane atop the Empire State Building—and maybe they were—but the single-minded Monopoles brought them back to earth with a jolt.

It was the top of the seventh inning and things were all tied up with matching threes. Up strides Jim Dimitry and belts a double to left-center and the Roard Runners have the feeling that trouble's brewing. It was. Bob Savasta moved Dimitry to third with a sacrifice fly and ye olde manager Charlie Dietz punches a single to make it 4-3. The lucky bottom of the seventh didn't materialize, and that's the way it ended.

For the Monopoles, things are hummin' along. Before they bumped the Roard Runners off the track they had put out the lights of the OAO Stars, 15-0, banged the Hawkeyes, 8-3, and downed the Druids, 18-3. There they are in the driver's seat with an 8-1 record . . . and wonderin' how they blew that one game.

The Road Runners are breathing down their necks, though, with a 7-2 record. The heat stays on.

As for competition, the only ones close to overtaking the Monopoles or the Road Runners are the Vikings, who just about slaughtered the Ducks, 20-2, but sport only a 5-4 record and have to call on a higher power if they're going to sneak in. The Hawkeyes stood even at 4-4 at last report, OAO had three wins but four losses, and the Druids were at 4-6. Then there are the Ducks. We all know what they have—down: Yep, and it's so fitting with their zero-and-eight reading. They're looking for a resuscitator. They battle, though, as the Road Runners found out in a scrap that ended 9-7—and the RRs had to pull that one out with a four-run seventh inning.

Wrap-up for Research

The American League's Research squad has wrapped up everything open to them, clinching the title 10-0. How? Just the way they've done it game after game: a great defense up the middle. Once in a while they explode; for instance, they turned back the Wolfpack 26-10 recently when almost everyone in the lineup crashed through with three or more base knocks. In that fracas, Joe Miller and John Brook each chipped in with four hits but the slugger was Joe Lisa, who had five hits and went for the cycle. Norm Dvoskin pitched a semi-relaxed game as he basked in the glow of the fireworks.

The real hot struggling and snarling was a little way below the men of Research. The R/Cees have been banging the hard spheroid around pretty well. Ed Montanez capped a six-run fifth inning against the Domes a few nights ago with a three-run circuit clout. More recently, four doubles, two triples, and Mario Grzan's homer helped carry them to an 11-3 triumph over the Wolfpack. And they also smeared the Muffers as Grzan did it again and got lusty backup support form a gaggle of guys—Mike Marino, George Daly, Lou Martin, Mel Levine, and Fred D'Amico. With all their power, though, they stand second.

Neil Mark and Pete Buddine pounded round-trippers, and Jack Tavares went three-for-three as the Sloe Pokes, behind some fancy glovework, overpowered the Maurauders 12-8. Manager Ed Rumpf of the Wolfpack and two of his mates, Bruce Yberg and Dick Coyer, got in four and three hits, respectively, as they tagged the Muffers with a 22-hit attack and clobbered them 15 to 8. There was power elsewhere, too, notably in the Shadows. They (the Shadows, that is) are running well with a 5 and 2 won-lost record and when they get riled—as apparently they did when they banged the Domes over the dome (Sorry!)—they get explosive. Witness the 20-to-3 shellacking of the Domes, the ill-fated cellar-dwellers. The first five men in the Shadows' batting order piled up 20 hits, and Bob Ogilvie homered twice in the first inning.

Reds shortcircuit Jammers

The spotlight fell on two contests in the Wednesday night league. In one, the J-Mets got inot a slam-banger with the Side Lobes, finally coming out on top 14-11 as Bob Hembrecht poked one over the fence and Frank Varipapa went four-for-five and both Art Frasca and George Dochat went three-for-four. The other spotlighter was the eight and tidy game that the Reds and Tactical Jammers got into. Each squad committed seven (count them, seven) errors and each made over 20 hits. Outcome of that tense pitchers' duel? They say it was 28 to 22, Reds on top. (The official scorer immediately took a day off.)

Night game

The grand old Yankee Stadium, the "house that Ruth built," will be the scene of a "Grumman Night" on Friday, September 25, when Ralph Houk's Bombers battle the Detroit Tigers under the lights.

The GAA has announced that it has 500 tickets available for this late season game priced at $2.75 apiece. Bus transportation, also available at an extra charge of $1.50, is recommended because of possible parking problems at the Stadium. The buses will leave from Plant 28 at 5:30 p.m.

Shadows slug opponents in 7 straight to walk off with GAA tourney honors

"Anything can happen in a short series" is an old saw that baseball managers like to use. And the more favored they are the louder they'll yell it, just in case their team gets upset in a series they're expected to win.

Well, the Shadows don't care who yells what and how loud—all they know is: they beat the best in the Company (at least on Long Island), and they did it with such ease that it was almost embarrasing.

In the week-end softball tourney sponsored by GAA on August 14-16, the Shadows opened their seven-game sweep by crushing the Druids, 20-2. That may have convinced the Mohawks; they didn't even show up for their go at the Shadows and lost by forfeit. Then, in quick order, the Shadows whacked the Plumbers, 15-9; Good Guys, 19-1 (who was it that said "good guys finish last"), and, in the finals of the winners' bracket, the J-Mets, 22-4.

In the final game of the two-defeats-and - out competition, the Shadows crunched Tactical Jammers, who had emerged from the losers' bracket, 19-0.

With a team batting average of .567 for the seven-game sprint, it's no wonder that the Shadows were so powerful. Bob Ogilvie took hitting honors with .810 on 17 for 21, including five homers, while team mate Paul Bavitz finished with .615 on 16 hits, one a round tripper, in 26 at bats. Other bat stars for the Shadows were Bob Germano, .583; Mike Gabriel, .583; and John Slonaker, .571.

Slim pickings for Buzzards

At Vero Beach, Fla., the Buzzards of KSC ran into some propwash in their first encounter with the Mohawks of Stuart on June 20. When it was all over, the Buzzards were missing a few tail feathers, and a little prestige, as the Mohawks earned an 8-4 win.

Handball, horseshoe play starts Sept. 14

The Athletic Association has announced that plans have been set up for the staging of the annual handball and horseshoe tournament. Both competitions will get underway on Monday, September 14, and entry deadlines for both events are Friday, September 4. Applicants are to check which events they're entering on the accompanying registration form, provide the necessary information, and forward the form to GAA in Plant 28B, Bethpage.

Play in both events will be held Mondays through Fridays, starting each day at 12:30 p.m.

Competition in doubles will start off the handball tourney, which will have the double elimination system and 21-point games. Herb Mahoney of the GAA staff, who will supervise this event, has indicated that the matches for the Bethpage area tourney will likely be held in the Town Park adjacent to Plant 30 on Stewart Avenue, but he said that all entrants will be notified on all tourney particulars. One huge event will be staged for all Grumman plants in the Bethpage area, while separate events will be set up for outlying plants such as Garden City, Syosset, Wyandanch, Sag Harbor, and Peconic River.

This tournament plan of separate play for outlying plants will also be in effect for the horseshoe competition, directed by Mike Cherry of GAA. In Bethpage, however, the eliminations will be centered on the courts at Plant 2.

Tournament Entry Registration

Horseshoes ..... Handball .....

Singles ..... Doubles .....

Name ..... Ext. .....

Plant ..... Dept. ..... Perm. No. .....

Doubles Partner

Name ..... Ext. .....

Plant ..... Dept. ..... Perm. No. .....

Entry Deadline Friday, Sept. 4

(Forward to GAA Office, Plant 28B)

plane GRUMMAN news

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News around the industry

WASHINGTON—Grumman Corp. was awarded an $11.3 million addition to an existing Navy contract for long-lead-time items for production of A-6E aircraft.

Honeywell Inc. received a $4.2 million Navy contract addition for Rockeye II missile components.

North American Rockwell Corp. was given a $4.1 million Navy contract for refurbishment and modification of ship inertial navigation systems. (Wall Street Journal)

CANOGA PARK, Calif.—North American Rockwell Corp. said its Rocketdyne division had signed an agreement with Mitsubishi Heavy Industries, Japan, to furnish technical assistance for development of a liquid-fuel rocket engine for the third stage of the Japanese Q launch vehicle. Terms weren't disclosed.

Rocketdyne said the agreement started July 1. The Q rocket is a four-stage vehicle that will be used to place satellites into earth orbit, the company said. Last February, Japan became the fourth nation to launch an earth-orbiting satellite. (Wall Street Journal)

BURBANK, Calif.—Ailing Lockheed Aircraft Corp.'s earnings dropped to $3.2 million, or 28 cents a share, for the second quarter, ended June 28, from $8.2 million, or 73 cents a share, in the comparable 1969 quarter. Sales rose to $659 million from $408 million.

Lockheed also announced its directors voted to omit the quarterly dividend again "to conserve cash." This is the third consecutive quarter in which the company has omitted its dividend on common stock. The company last paid a quarterly dividend, of 30 cents, on Nov. 3.

First half earnings were $8.3 million, or 73 cents a share, down from $17.5 million, or $1.55 a share, in the 1969 half. Sales rose to $1.18 billion from $843 million. (Wall Street Journal)

WASHINGTON—Martin Marietta Corp. has been awarded a $13,460,726 addition to a contract for work on the Skylab program.

The National Aeronautics and Space Administration said the contract is for design, development, fabrication, assembly, integration and test of the multiple docking adapter. The award brings to $106,809,600 the NASA payments to Martin Marietta for work on the Skylab program since January 1968.

Skylab includes the first U.S. embryonic space station and manned solar observatory. NASA plans to launch the Skylab in 1972. (Wall Street Journal)

New rules for announcements

WASHINGTON—In a unanimous display of purity, Senators agreed that they and House members should stop the ancient custom of issuing official leaks about Defense contract awards.

The vote was 77-to-0 to forbid the Pentagon to notify any member of Congress about a contract award before making its own public announcement. For years, the Pentagon as a courtesy has let lawmakers have first crack at spreading the good tidings of an award to contractors back home.

The provision was added to a bill authorizing the procurement of military hardware. Until the House decides whether to drop the custom, it will continue in both bodies.

A special advisory panel on Pentagon procedures has recommended that all contract-award announcements come first from the Defense Department, not Capitol Hill. The idea was picked up by Sen. John Williams (R., Del.) who contended it is misleading for a Senator's office to leak news of a contract award, as if the lawmaker had anything to do with landing it. (Wall Street Journal)

MOUNTAIN VIEW, Calif.—Fairchild Camera & Instrument Corp., beset by red ink woes, said it is reducing its capital expenditure 30%, its work force 9% and is cutting salaries among key executives.

The electronics concern declined to specify the expected savings but said the salary cuts, based on a sliding scale proportional to annual compensation, will be less than 10% in all cases.

In the second quarter Fairchild Camera had a loss of $5 million on sales of $57.4 million. This contrasted with an operating loss of $1 million, before a special credit of $473,000, in the comparable 1969 quarter on sales of $65 million.

LOS ANGELES—Lockheed-California Co., a division of Lockheed Aircraft Corp., said it developed a ceramic that can sustain very high temperature without any expansion and "almost measureless contraction." The new ceramic, called Lo-X for "low thermal expansion," has "important characteristics for industrial use," Lockheed-California said.

Lo-X "is promising as a new material for casting dies—the patterns from which aircraft, missile or other industrial parts are formed," Lockheed-California said. The new ceramic also has potential application in "custom casting," because the ceramic compound's formula can be adjusted to give the die an expansion characteristic matching the material to be formed, the company added.

Lo-X is the result of two year's development work by Lockheed-California and Duramics Inc., Newport Beach, Calif., licensee for the product. (Wall Street Journal)

WASHINGTON—LTV Aerospace Corp., a subsidiary of Ling-Temco-Vought Inc., was given additions totaling $54.3 million to two Navy contracts for long-lead-time items for attack aircraft.

One addition, for $41.5 million, was to a Navy contract for A7D aircraft for the Air Force. The other, for $12.8 million, was for the Navy's A7E.

General Electric Co. was awarded a $22.4 million Navy contract for naval nuclear propulsion research and development and related work. (Wall Street Journal)

Renegotiations underway

WASHINGTON—McDonnell Douglas Corp. is fighting a record-high excessive profits determination of $45 million for the year ended June 30, 1966.

The case is now pending before the Renegotiation Board here. The determination was made by the western regional board. It pertains to McDonnell Aircraft Corp., which was merged with Douglas Aircraft Co. in 1967.

McDonnell's stated profits, after taxes, for the year ended June 30, 1966, were $43.2 million, according to its report to stockholders.

McDonnell Douglas said the western regional board's $45 million refund decision was based on "erroneous accounting and legal conclusions and improper analysis of the company's renegotiable business."

Two other major cases being fought in the Tax Court are:

- **North American Rockwell,** $9 million for year ended Sept. 30, 1964.
- **Grumman Aircraft Engineering,** $7.5 million for the year ended Dec. 31, 1965. (Aviation Week & Space Technology)

SEATTLE—Boeing Co. has entered USAF's AX close-support aircraft competition and McDonnell Douglas Co. apparently plans to withdraw after turning over its design to Boeing. Boeing said its Military Airplane Systems Div. in Seattle is developing a turbofan AX concept and its Vertol Div. in Philadelphia is working on a turboprop concept "with the special assistance" of the McDonnell Aircraft Div. AX proposals are due next month. (Aviation Week & Space Technology)

ST. LOUIS—McDonnell Douglas Corp. awarded a contract for about $7.6 million to Litton Industries Inc., Woodland Hills, Calif., to develop an inertial navigation set for the U.S. Air Force F15 fighter.

The contract includes the design and production of 24 sets for preproduction testing and the initial phase of the F15 flight test program. A production contract for the set will be awarded later. The inertial navigation set provides the basic navigation data for the F15 and is the aircraft's primary altitude reference. It also provides information on the plane's pitch, roll, heading, acceleration and velocity. (Wall Street Journal)

MINNEAPOLIS—Honeywell Inc. will lay off about 375 more Twin Cities area employes at the end of August.

This will bring to 2,095 the number of employes laid off since March. The new layoffs, like the others, were attributed to cutbacks in defense spending.

The layoffs this month will involve about 275 salaried technical, administrative and clerical personnel and about 100 hourly employes at the company's aerospace and ordnance division facilities.

The action will leave Honeywell employment in the Twin Cities at about 18,000. (Wall Street Journal)

EAST HARTFORD, Conn.—Problems related to the engine for the Boeing 747 held United Aircraft Corp.'s second quarter earnings to a modest gain.

Executives said the difficulties will probably mean the company won't meet its objective of a 20% gain in earnings for the full year.

Second quarter net was $15.4 million, or $1.28 a share, up from $15 million, or $1.24 a share, a year before. Sales also rose, to $613.1 million from $563.5 million.

First half earnings declined to $23.8 million, or $1.96 a share, from $31.7 million, or $2.62 a share, in the 1969 first half. Sales rose to $1.19 billion from $1.13 billion. (Wall Street Journal)